

Remarks

Claims 1-9 and 11-22 were pending.

Claims 1-3 and 7 are amended.

Claim 4 is cancelled.

Claim 8 is original.

Claims 5, 6, 9 and 11-22 are as previously presented.

Claim 23 is new.

The application now contains claims 1-3, 5-9 and 11-23.

The addition of claim 23 is added after final is appropriate as claim 4 is cancelled and the number of claims is remains the same.

Claims 1 and 7 are amended to insert the term "unsubstituted" immediately before the term "C₁-C₄alkyl" and "C₁-C₄alkylcarbonyl" in the definition of R₁ and to replace the phrase "containing from" with "consisting of". Support is inherent in the claim. Applicants respectfully maintain that the amendments are not necessary as detailed below, but given the late stage of prosecution, they have decided to focus more clearly on certain embodiments of the invention. Applicants respectfully point out that in the definition of "Q" immediately prior to the definition of R₁, the hydrocarbon radical containing from 12 to 24 carbon atoms is described as "unsubstituted or mono- to tri-substituted". In the definition of R₁, no modifier was originally present, although in other instances in the claims, groups are described as "unsubstituted or substituted". Applicants therefore believe that the lack of a substituted option for R₁ in the original claims supports the instant clarification "unsubstituted".

Claim 2 is amended by deleting the value "[C₂-C₃alkylene-O]₁₋₄-R₃" for R₂, and inserting in its stead "[C₂-C₃alkylene-O]₁₋₂-H", support is found in the specification on page 3 lines 2 -3. Claim 2 is further amended to delete "R₂" as a value for R₃ and insert in its stead "methyl or ethyl", support is inherent in claims 1 and 2 as R₃ may be R₁ and R₁ may be methyl or ethyl.

Claim 3 is amended to incorporate the limitations from claim 4.

Support for new claim 23 is found in claim 7.

No new matter is added.

Rejections

Claims 1-5, 7, 9, 12, 13 and 19-22 are rejected under 35 USC 103(a) as being obvious over MacMahon, et.al., US 4,264,552, which discloses a host of pigment compositions which incorporate 0.5 - 20% of a binder/dispersant system, in view of Klug, US 2,618,632, which discloses cellulose derivatives. The Action argues that McMahon discloses the instant invention except for the specific cellulose derivative used, but that it would have been obvious to use the cellulose derivatives of Klug in the methods of MacMahon.

Applicants respectfully traverse the rejections.

Before proceeding, Applicants wish to clarify remarks from their previous response which appear to have been misconstrued by the Examiner. On page 3 of the present Action, the Examiner refers to Applicants' argument that Klug does not disclose the instant cellulose ethers because Klug uses hydroxy and carboxy groups substituted by chlorine. The point that Applicants intended to make was that in Klug, ethers are formed by reaction at the chloride and not esters, whereas the instant invention allows both ethers and esters. That is, Klug requires a mixture of two ether groups.

However, this is a minor point, perhaps even beside the point, for at least two reasons. First, the instant amendments specifically note that the C₁-C₄alkyl or C₁-C₄alkylcarbonyl of R₁ is unsubstituted as opposed to Klug, and second, as stated by Applicants in their previous response, it doesn't really matter whether Klug does or does not disclose the cellulose derivatives of the instant invention as the cellulose derivatives of the instant invention are known compounds outside of the presently cited disclosures. The invention is based on the unpredictable discovery that choosing specific cellulose derivatives and mixing them in certain ratios with selected co-additives provides a much more stable pigment dispersion than is achieved otherwise. That is, Applicants do not maintain that the individual components are novel, but rather that the composition as a whole is unknown and that selection of these particular individual materials, mixed in these ratios, provide unexpected benefits.

Also, before addressing the rejections to the broader claims, e.g., 1 and 7, Applicants respectfully point to claims 22 and 23 wherein the binder mixture of the composition and process is limited to the cellulose derivative, an amine Q-N(R₃,R₄) and optional other additives. Applicants point out that Q is hydrocarbon of at least 12 carbons which may be substituted by hydroxy or OR₁ and that

Q is itself not alkanoyl. Thus, Applicants respectfully submit that scope of claims 22 and 23 are commensurate with the data of the previously submitted declaration. Therefore Applicants respectfully aver that non-obvious results are clearly demonstrated for the invention of claims 22 and 23 and ask that the rejections thereof be withdrawn.

Regarding the broader claims, Applicants point out that the instant invention requires that two specific materials be present at a specific ratio in the binder along with the pigment, i.e., a specific

cellulose derivative and one compound of the formulae $Q-N \begin{matrix} R_3 \\ R_4 \end{matrix}$, $Q-\overset{O}{\parallel}C-N \begin{matrix} R_3 \\ R_4 \end{matrix}$ or $Q-\overset{O}{\parallel}C-O-R_3$.

While one may find generic mention of similar compounds in the cited art, the MPEP specifically states that an "as a whole assessment" of the art requires a showing that it would have been obvious for one to have selected the elements of the claimed invention when confronted by the problems address by the inventor based on what was clearly known or disclosed at the time. This is particularly true when a large number of non-exemplified materials are generically disclosed without any guidance as to which ones would be best suited for the desired purpose, as in the present case.

The instant invention has identified a novel ternary composition containing at least 92% pigment, a specific cellulose derivatives and a co-additive in specified ratios. The pigment compositions are extremely high in pigment content and yet have excellent aqueous dispersibility.

Applicants can find no suggestion in either MacMahon or Klug that would lead one to believe that combining cellulose derivatives such as those of the instant claims with the other component of the instant binder would provide the benefits of the invention. Applicants are not arguing the art separately, however, according to the MPEP, there must be some direction in the art that would lead one to choose these specific elements in order for a case of obviousness to exist.

Further, both McMahon and Klug discloses in principle binary pigment granulates comprising pigments and granulating assistants. The binary assistants of MacMahon can be non-ionic surfactants, cationic surface-active agents and/or anionic surfactants, further water soluble polymeric agents such as modified cellulose derivatives (only hydroxy ethyl cellulose, hydroxy propyl cellulose and sodium carboxymethyl cellulose), polyvinyl alcohol or polyvinyl pyrrolidone. The closest teaching

in the combination of Klug and McMahon is the statement in MacMahon that "The surfactant component of the granulating assistant may be used alone, as a mixture of different surfactants or used in conjunction with, or replaced by, a binder and/or an application agent" (col. 3 / lines 16-22).

Applicants submit that such a general statement cannot be construed to be a suggestion to use a modified cellulose in combination with, e.g., fatty amines. Also McMahon discloses generically only amine salts (e.g. sulphates), and solely in the examples 17-19 is there a fatty amine or acetate thereof combined with a modified cellulose. However, in all these three examples the pigment is used in an amount lower than instantly claimed, the binder comprises a major amount of components not instantly claimed, the modified cellulose is of a type different from the instantly claimed type. Klug does not suggest a ternary pigment composition at all, but rather washes the cellulose away (the deposition must be prevented – col. 7 / line 35).

More simply put, Applicants respectfully submit that there is no suggestion in the art to combine MacMahon and Klug in an attempt to prepare pigment compositions that are extremely high in pigment content and yet have excellent aqueous dispersibility.

Applicants therefore respectfully submit that the rejections of claims 1-5, 7, 9, 12, 13 and 19-22 under 35 USC 103(a) over MacMahon, et.al., US 4,264,552, in view of Klug, US 2,618,632, are overcome and kindly ask that the rejections be withdrawn.

Claims 6, 11 and 14-18 are rejected under 35 USC 103(a) as being obvious over MacMahon, et.al., US 4,264,552 and Klug, US 2,618,632 in view of Pollard, US 3,728,143.

Claim 8 is rejected under 35 USC 103(a) as being obvious over MacMahon, et.al., US 4,264,552 and Klug, US 2,618,632 in view of Kurtz, US 5,082,498.

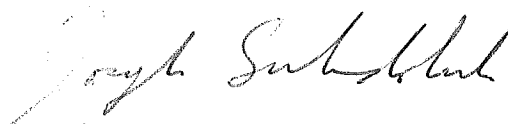
Applicants respectfully traverse the rejections.

Applicants refer to the above discussion regarding MacMahon, et.al., US 4,264,552 and Klug, US 2,618,632 and note that of Pollard, US 3,728,143 does not overcome these deficiencies nor does Kurtz, US 5,082,498.

Applicants therefore respectfully submit that the rejections under 35 USC 103(a) over MacMahon, et.al., US 4,264,552, Klug, US 2,618,632 and Pollard, US 3,728,143; and the rejections under 35 USC 103(a) over MacMahon, et.al., US 4,264,552, Klug, US 2,618,632 and Kurtz, US 5,082,498 are overcome and kindly ask that the rejections be withdrawn.

In light of the discussions above, and those already of record, Applicants respectfully submit that all rejections and objections are addressed and are overcome and kindly ask that they be withdrawn and claims 1-3, 5-9 and 11-23 be found allowable. In the event that minor amendments will further prosecution, Applicants request that the examiner contact the undersigned representative.

Respectfully submitted,



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